

Xeo



General Description

SOFTWARE VERSION 7.30

Abrivo
communications

SPECIAL NOTICE

CONVERSATION RECORDING

In certain states it is illegal to intercept and/or record telephone calls.

In certain states and under certain circumstances it is illegal to intercept for the purposes of listening in and/or recording telephone calls. Because such activity is not illegal in all jurisdictions and may be permitted in training and/or monitoring of personnel, this telephone system can be programmed to permit interception and/or recording with or without warning to those on the line. Before utilizing the system for such purposes, you are advised to consult with an attorney familiar with laws of the jurisdiction in which you utilize such feature.

Iwatsu America, Inc., its distributors, and the manufacturers responsible for this feature make no representations with respect to the legality of its use and disclaim any liability for claims and/or damages arising from the use or misuse of this feature.

TOLL RESTRICTION

The Toll Restriction feature of the X-EO system is one method of preventing fraud (i.e., the making of unauthorized toll calls) by users of the system. The chance of fraud may be reduced but may not be eliminated. Therefore, no expressed or implied warranty is made against fraud. Only a complete program which includes but may not be limited to inspection of telephone call billing, use of call detail recorders and other such devices, systematic monitoring of all telephone call activity, and implementing corrective measures can minimize the possibility of fraud.

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This manual was written for X-EO systems with version 7.30 software. In some cases, available feature operations may differ from those listed in this manual, depending on the hardware, software and programmed functions in your X-EO system. For more information contact your Authorized Iwatsu Distributor.

Iwatsu America, Inc. has used its best effort to ensure that the information in this manual was accurate at the time of printing. Iwatsu America, Inc. makes no warranty of any kind, expressed or implied, with regard to the contents of this manual. This information is subject to change without notice.

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Part Number: 108311-AB

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FCC Registration and Requirements

INSTRUCTIONS TO USER

CONGRATULATIONS You have selected a telephone system manufactured by Iwatsu Electric Co., Ltd. that has been designed to provide a multitude of features with the reliability that Iwatsu products are famous for. The X-EO Telephone System has been registered and approved by the Federal Communications Commission (FCC) for direct connection to your local telephone service. In accordance with FCC rules and regulations regarding telephone equipment, Iwatsu is required to make you aware of your rights and obligations regarding the use of this equipment. In order that we may fulfill our obligations, please take a moment to carefully read the rules and regulations contained herein that apply to you.

FCC RULES AND REGULATIONS

(1) Notification to the Local Telephone Company

The local Telephone Company may request specific information about the X-EO Telephone System before connection can be made to the local Telephone Company lines. When requested by the Telephone Company, the following information should be provided:

- (a) The FCC Registration Number for all equipment connected to an individual line.
- (b) The largest Ringer Equivalence Number (REN) for each line.
- (c) Information required for compatible operation of the equipment with the Telephone Company communication facilities.

The FCC Registration Number and Ringer Equivalence Number (REN) is printed on the equipment label located on the common equipment cabinet of the system. The largest Ringer Equivalence Number is the sum of the Ringer Equivalence Number (REN) of each FCC registered device that is connected to the same line. The maximum Ringer Equivalence Number that can normally be used without causing faulty operation is 5.0. Check with your local Telephone Company to determine the maximum Ringer Equivalence Number for the telephone lines you are using. In order to connect registered terminal equipment to the Telephone Company lines, the terminal equipment must utilize an FCC "standard means of connection," often referred to as a "registered jack. " The type of jack utilized on the X-EO telephone system is identified by a USOC code number. Different code numbers are utilized for the various types of services provided by the Telephone Company that the systems use. When requesting new telephone service, the Telephone Company must be informed of the code number for each type of service. The X-EO system can be configured as either a Key Telephone System - Fully Protected, or a Multi-Function (Hybrid) System - Fully Protected. The following are the codes and registration numbers applicable to the X-EO equipment:

| X-EO FCC Registration Numbers | |
|----------------------------------------|-------------------|
| Key Telephone System - Fully Protected | BD620Q-60444-KF-E |
| Multi-Function (Hybrid) System | BD6MLA-21244-MF-E |

X-EO General Description

The following constitutes the other information required to be reported to the local Telephone Company when requesting service:

CALLER ID / LOOP START TRUNK

Ringer Equivalence No.....0.5B
Service Order Code.....9.0F
Facility Interface Code.....02LS2
Registered Connection.....RJ21X

ISDN BRI TRUNK

Service Order Code.....6.0
Facility Interface Codes.....02IS5
Registered Connection.....RJ49C *

NOTE: * — NT1 required.

(2) Restrictions on the Use of Registered Telephone Equipment

FCC rules governing customer owned telephone equipment specifically exclude the use of the X-EO system on public coin telephone (payphone) lines. The connection to party line service is subject to local state tariffs. Contact your state public utility, public service commission, or corporate commission for more information.

(3) Incidence of Harm

If for some reason the X-EO system causes harm to the Telephone Company network, the Telephone Company will notify you in advance that temporary discontinuance of service may be required. In the event advance notice is not practical, the Telephone Company will notify you of the interruption of service as soon as possible. Also, the Telephone Company will advise you of your right to file a complaint with the FCC if you believe it is necessary. The Telephone Company may also make changes in its facilities, operations, or procedures that could affect the operation of your system. If this occurs, the Telephone Company will provide advance notice in order for you to make the necessary modifications to maintain uninterrupted service.

(4) Hearing-Aid Compatibility

The X-EO telephone system, utilizing telephone station equipment manufactured by Iwatsu, meets all FCC requirements for Hearing-Aid compatibility.

(5) Instruction Regarding the Repair and Refurbishment of Registered Equipment

Only the manufacturer or its authorized agents are permitted under the FCC rules to make other than routine repairs to registered telephone equipment. Repairs made to registered telephone equipment by unauthorized entities will void equipment warranties as well as violate local state tariffs. Routine repairs are classified typically as lamp replacement, fuse replacement, directory label replacement, etc. All other repairs to your X-EO telephone equipment should be performed by Iwatsu America, Inc. When trouble is experienced on any telephone line that your system is connected to and the trouble is causing harm to the network, the Telephone Company may request that you remove the equipment from the telephone line(s) until the problem has been corrected. To contact Iwatsu America, Inc. for information regarding the repair of your equipment, write or call:

(201) 935-8580
IWATSU AMERICA, Inc.
70 Moonachie Avenue
Moonachie, NJ 07074
Attn: Repair Department

(6) Use of Other FCC Registered Equipment

Aside from the Ringer Equivalence reporting as explained (above), use of other FCC equipment may provide for specific limitations depending upon the type of equipment. Check the instructions included with such equipment to determine what the limitations are, if any, on the use of such equipment.

X-EO General Description

(7) Automatic Dialers

The X-EO systems contain features that provide for the automatic dialing of outgoing calls. When programming Emergency Numbers and (or) making test calls to Emergency Numbers:

- (a) Remain on the line and briefly explain to the dispatcher the reason for the call.
- (b) Perform such activities in the off-peak hours such as early morning or late evening.

(8) Toll Restriction and Optimized Routing Features

The X-EO system provides both Toll Restriction and Optimized Routing features that may be programmed in your system. The software or programming contained in the X-EO system may be required to be upgrading to allow user access to the network in order to recognize newly established network area codes and exchange codes as they are placed in service. Failure to upgrade the programming or software (if required) to recognize the new codes as they are established will restrict the user from gaining access to the network and to these codes.

(9) Radio Frequency Emissions

The X-EO Telephone System is registered with the FCC as a Class A RF Device that may radiate radio frequency emissions. In the event that the system causes interference with another device, steps must be taken to reduce the interference, including possible removal of the equipment. While the probability of such an event is low, consult Iwatsu America, Inc. for further assistance if this occurs.

(10) Equal Access Requirements

This system is capable of providing users access to interstate providers of operator services through the use of equal access codes. Failure to provide equal access capabilities is a violation of the Telephone Operator Consumer Services Improvement Act of 1990 and Part 68 of the FCC rules.

(11) Electrical Safety Advisory

While this system is fully compliant with FCC Rules and Regulations, it is recommended that an AC surge arrestor of the form and capacity suitable for the model of system purchased be installed in the AC outlet to which the system is connected. Consult with your X-EO dealer as to the surge protector requirements for your system.

(12) Music-On-Hold

In accordance with U.S. Copyright Law, a license may be required from the American Society of Composers, Authors and Publisher, or other similar organization, if radio or TV broadcasts are transmitted through the music-on-hold feature of the telecommunication system. Iwatsu America, Inc. hereby disclaims any liability arising out of the failure to obtain such a license.

(13) Use of Call Recorder and VM Record

In certain states it is illegal to intercept and/or record telephone calls. In certain states and under certain circumstances it is illegal to intercept for the purposes of listening in and/or recording telephone calls. Because such activity is not illegal in all jurisdictions and may be permitted in training and/or monitoring of personnel, this telephone system can be programmed to permit interception and/or recording with or without warning to those on the line. Before utilizing the system for such purposes, you are advised to consult with an attorney familiar with laws of the jurisdiction in which you utilize such feature. Iwatsu America, Inc., its distributors, and the manufacturers responsible for this feature make no representations with respect to the legality of its use and disclaim any liability for claims and/or damages arising from the use or misuse of this feature.

(14) Emergency 911

The X-EO system can be configured to use the Automatic Number Identification (ANI) of assigned telephone numbers to identify individual station(s), group of stations, or stations located in a specified sq. ft. area, or combinations thereof. In areas that support Enhanced 911 calls, this feature may assist the 911 Public Service Answering Point (PSAP) operator to determine the general location of the caller.

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X-EO System Components Overview

Components

KSU Control Module

8 Card Slots
 Dimensions (HxWxD): 13.8"x16.5"x5.9"
 Weight: Approximately 14.5 lbs. fully loaded

PWSU Power Supply

Dimensions (HxWxD): 2.5"x4.7"x8.3"
 Weight: 4 lbs.

Switch Parameters

Time Division Multiplexed PCM32
 Mu-law Speech Compression
 Time Slots: 114
 Stored Program
 Distributed Multi-microprocessor



X-EO Cabinet

System Memory

| Component | <u>Flash Memory</u> | <u>RAM</u> |
|-----------|---------------------|------------|
| CPUMEM | 4 MB | 2 MB |

Heat Dissipation

PWSU (maximum): 162 BTU/hr

Environment

Operating Temperature:
 0° to 40°C/32° to 104°F
 Storage Temperature:
 -10° to 50°C/14° to 122°F
 Relative Humidity (non-condensing):
 10% to 90%

AC Input

AC Input Voltage Tolerance:
 PWSU: 108V-132V @ 120V
 Frequency Tolerance:
 PWSU: 47 Hz -63 Hz
 Maximum Input Current
 PWSU: 2.0 A

| Power | <u>Nominal</u> | <u>Maximum</u> |
|-------------|----------------|----------------|
| PWSU Input: | 167 watts | 240 watts |

X-EO General Description

Ringling Generator

| | |
|-------------------------------------|--------|
| Frequency: | 20 Hz |
| Amplitude: | 90 VAC |
| Maximum Simultaneous Ringing (SLT): | 2 |

Battery Backup

The X-EO (PWSU) power supply includes a battery interface. Backup time is dependent upon battery array, system size and system usage.

FCC Registration Number

KF: BD6MLA-21247-KF-E
 MF: BD6MLA-21244-MF-E

Facility Interface Codes

| | |
|----------------------|-------|
| Loop Start Trunks: | 02LS2 |
| Ground Start Trunks: | 02GS2 |
| OPS Lines: | 0L13C |
| ISDN BRI: | 02IS5 |

Attendant Position

| | |
|------------------------------|---|
| Maximum Attendant Positions: | 1 |
|------------------------------|---|

Telephone Requirements

Digital Telephones

| | |
|---------------------------|-----------|
| Wiring: | 1 pair |
| Total End-to-end Distance | |
| 22 AWG Twisted Pair: | 1,000 ft. |
| 24 AWG Twisted Pair: | 1,000 ft. |
| 1 Star Repeater: | 1,500 ft. |
| 2 Star Repeaters: | 8,000 ft. |

Single Line Telephones

| | |
|----------------------------------------|-------------|
| Wiring: | 1 pair |
| Wiring w/Message Lamp: | 1 or 2 pair |
| Maximum Loop Resistance (Includes SLT) | |
| On-premise SLT: | 600 ohm |
| Off-premise SLT: | 1,200 ohm |
| Ringling Frequency: | 20 Hz |

Circuits Per Card

| | |
|----------------------------------|------------|
| Digital Station Card: | 4 circuits |
| Analog Station Ports (standard): | 2 circuits |
| Integrated Voice Mail: | 4 circuits |
| Caller ID Trunk Card: | 2 circuits |
| ISDN BRI Trunk Card: | 1 circuit |
| | (2B + 1D) |
| Miscellaneous Function Card: | 5 circuits |

Software

| | |
|-------------------------------------------|------------------------|
| Outgoing Trunk Groups: | 10 |
| Incoming Trunk Groups: | 10 |
| Incoming Call Ringing Assignment: | 16 Stations/Line. |
| Incoming Call Delayed Ringing Assignment: | 16 Stations/Line |
| Doorphone Ringing Assignment: | 16 Stations/Doorphones |
| Call Pick-up Groups: | 10 |
| CO/ICM Hunt Groups: | 10 |
| Maximum Stations per Hunt Group: | 16 |
| Paging Groups Internal: | 8 |
| Maximum Stations per Paging Group: | 16 |
| External Paging Zones: | 2 |
| Station Speed Dial: | 10 |
| System Speed Dial: | 90 |
| Maximum Digits per Speed Dial Number: | 32 |
| Speed Dial Alphanumeric ID: | 10 characters |
| CO/Station Alphanumeric ID: | 8 characters |
| Account Codes: | 12 digits |
| Forced Verified Account Codes: | 80 |
| Park Orbits | |
| Attendant/System: | 10 |
| Station: | 1 |
| Call Forwarding: | 10 steps |
| No Answer: | no limit |
| Station Numbering Plan: | flexible |
| Station Text Messages: | 10 |
| System Text Messages: | 90 |
| Text Message Groups: | 10 |
| Maximum Stations per Text Message Group: | 16 |
| Station Flexible Key Patterns | 13 |
| Caller ID/ANI/DNIS Tables | 100 |
| Caller ID Information Storage | 50 calls |

X-EO Hardware Capacities

| SYSTEM¹ | X-EO |
|------------------------------|-------------|
| Power Supply | PWSU |
| Card Slots | 8 |
| Number of Ports ² | 45 |
| Trunk Ports ³ | 6 |
| Station Ports | 16 |
| Digital Station Ports | 14 |
| Voice Mail Ports | 4 |
| Attendant Positions | 1 |
| On-premise SLTs | 2 |
| Doorphones | 14 |
| Caller ID Trunks | 6 |
| Loop Start Trunks | 6 |
| Conference Circuits | 2 |
| ISDN BRI Cards ³ | 3 |
| Miscellaneous Function Ports | 5 |
| Serial Ports | 2 |

1. This table lists the maximum quantity supported for each component type. The combined total number of ports for each system is limited to the "Number of Ports" category of this table. The capacities listed are based on the total number of card slots available, software restrictions and the power consumption of each component. It is recommended to use the X-EO Power Calculator Program to determine the exact power supply required.
2. The combined number of Station, Trunk, and Miscellaneous ports may not exceed the number of ports listed in this category.
3. The total number of trunks programmed may not exceed 6 Caller ID/Loop Start Trunks or 3 ISDN BRI Lines.

X-EO General Description

Key Telephone Lamp Indications

| <u>Status</u> | <u>Lamp Indication</u> |
|--------------------------------|-------------------------------------|
| I-Use (Green)..... | Modulation Steady (On) |
| CO Incoming/Call Forward..... | 0.1 sec. on, 0.9 sec. off |
| I-Hold (Green)..... | 0.5 sec. on, 0.5 sec. modulated on |
| System Hold/Non-Privacy..... | 0.1 sec. off, 0.3 sec. modulated on |
| Recall, ICM Incoming, MSG..... | 0.7 sec. off, 0.3 sec. modulated on |
| DND..... | 0.5 sec. on, 0.5 sec. modulated on |
| Busy..... | Steady (On) |

Station Port Requirements

| <u>Description</u> | <u>Ports Required</u> |
|----------------------------------------|------------------------------------|
| 12 line keys (24 line keys with 12ELK) | 1 |
| Digital Key Telephone | 1 |
| Digital Wireless Telephone | 1 or shared with digital telephone |
| Digital Doorphone | 1 |

Time Parameters

| | |
|--------------------------------|-----------------------|
| Hold Recall Timer..... | 0 - 255 seconds |
| Timed Trunk Queuing..... | 1 - 20 minutes |
| Doorphone Answer Time..... | 5 - 255 seconds |
| VSS Recording Time..... | 0 - 120 seconds |
| Hunting Time..... | 0 - 255 seconds |
| Night Mode Start Time..... | 00:00 - 23:59 |
| Auto CO Answer Start Time..... | 00:00 - 23:59 |
| MISC Relay Timer..... | 10 - 255 milliseconds |
| DISA-Waiting Time..... | 0 - 255 seconds |

System Numbering Plan

X-EO has a Flexible numbering plan. Default numbering is three digits. Station length can be changed to two, three, or four digits in length.

X-EO Digital Telephones

There are several types of Digital Key Telephones designed to work with X-EO. Each of these telephones is described in this section.

Digital Multiline Telephones

The Digital Multiline Telephone has a built-in speakerphone, four fixed feature keys, eight feature keys with red LED's and an additional 12 multipurpose keys for feature operation or outside line appearances. Twelve multipurpose keys may be added with the addition of an key expansion module. It also includes a 2-line, 16 characters per line liquid crystal display and an incoming call indicator lamp. This display is very helpful for using advanced features and for providing status information. The oversized indicator lamp flashes red for incoming calls and green for a programmable feature such as message waiting.



DIGITAL MULTILINE TELEPHONE WITH KEY EXPANSION MODULE, BLACK

Digital Key Telephone

The Digital Key telephone is equipped with 4 Fixed Feature Keys with a red LED and 8 Programmable Multipurpose Keys with a red/green LED, and an incoming call indicator lamp that flashes red for incoming calls and green for a programmable feature such as message waiting. In addition, the digital key telephone also supports a single line/modem connection (for outgoing calls only) through an in-board modular connector. This feature allows simultaneous use of a modem while on a voice call. The digital key telephone may be upgraded with an internal speakerphone.



DIGITAL KEY TELEPHONE, BLACK

Digital Wireless Key Telephone

The Digital Wireless Key Telephone has four feature keys (Transfer, Hold, Feature, Channel and Redial) and four function (F1-F4) keys. It may be connected directly to a digital station port, or it may share a port with a digital telephone. All of the keys on this telephone are programmable with the exception of the Talk, Channel and Redial keys which are fixed. The transmission frequency of the is between 902 and 928 Mhz.



DIGITAL WIRELESS KEY TELEPHONE

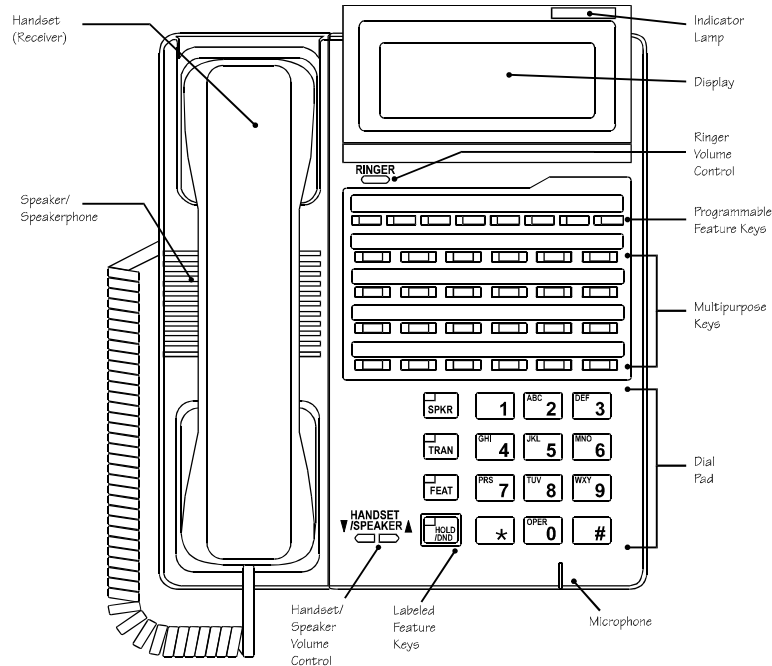
Digital Doorphones

The Digital Doorphone provides an economical and simple method to allow visitors to make an intercom call to gain entrance to your building.

Single Line Telephones

X-EO will support two industry-standard 500 or 2500 type single line telephones.

X-EO Digital Telephone Key Functions



Multipurpose Keys - Can be programmed for a specific function, such as outside lines, individual extensions, or one-touch feature operation.

Button Lamps - Light up or flash when someone is using a line or a feature corresponding to that button.

Green Lamp - Means that you are using that line.

Red Lamp - Means that someone else is using that line.

SPKR (Speaker) - Without lifting the receiver, the Speaker button allows you to dial and receive outside or internal calls, as well as converse, for "hands-free operation."

TRAN (Transfer) - Allows you to transfer a call from your telephone to another extension.

FEAT (Feature) - The feature button is used to help operate certain special and advanced features available through X-EO.

HOLD/DND (Hold/Do Not Disturb) - This button is used to put a call on Hold, to set the Do Not Disturb function to prevent any calls from getting through or ringing at your extension or to transfer the call to the number set in your Fixed Call Forward Destination.

Speaker Volume Control Button - The Speaker Volume Control is a rocker switch with sixteen settings. To increase the speaker volume, press the + side of the key; to decrease the volume of the speaker, press the - side of the key. The Speaker Volume Control now controls only the speaker volume, you can select the desired volume through this variable control.

Ringer Volume Control - There are 4 volume levels to choose from. When a new volume level is chosen, a tone sounds at the selected volume level: one beep sounds for the lowest volume setting, four beeps sound at the highest. This key also controls the volume of the BGM (Background Music) played on the telephone.

X-EO General Description

Handset Volume Control - The handset volume control buttons allow you to adjust the handset volume and headset volume to one of three levels.

Mute - When you are using the Speakerphone, Hands-Free Answerback or the handset/headset, the Mute button prevents any voice or sounds to be heard by the person on the other end of your call. When you press the Mute button to turn off the microphone, the Mute button will stay lit. Pressing the Mute button again permits the other person to hear your voice again.

Many X-EO features can be operated either by dialing a feature operation code or using a one-touch feature button, if your telephone has one assigned for that specific feature. The feature code numbers listed in this manual are preset in the X-EO system. Your system installer may assign a different code number for any feature based on individual system requirements.

Optional Station Equipment

The following components provide the X-EO station terminals with additional features.

Communication Link

The Communication Link is a TAPI-compliant Computer Telephony Interface adapter that bridges the gap between your PC and X-EO digital desktop telephone. The Communication Link combines desktop application software such as Contact Point application and a digital telephone system to fully harness the power of your PC through your X-EO telephone system.

Key Telephone Expansion Module

The Key Telephone Expansion Module adds 12 multi-purpose keys with red and green LEDs to the Digital Multiline Telephone.

Station Loud-Ringer/ External Speakerphone Adapter

Station Loud-ringer/ External Speakerphone Adapter.

Station Pedestals

Station Pedestal/Wall Mount. Used to wall mount or to provide additional angle to the X-EO Digital Multiline Telephones. The Digital Multiline Key Telephone and the Digital Key telephone have specific pedestals.

Internal Speakerphone

Optional internal speakerphone for the Digital Key Telephone.

Component Description

PWSU Power Supply Description

The PWSU power supply provides the required power for the X-EO. One PWSU is required in each X-EO.

Battery Back-Up

The PWSU power supply may be equipped with optional connecting cable for connection with a backup battery array. Backup time is dependent upon battery array, system size and usage.

MAIN Motherboard Interface Card

The MAIN motherboard has connectors to support six Digital Stations, two Analog Stations, one External MOH Source, and two Serial Ports. In addition it has connectors for the CPUMEM CPU Card, three ISDN BRI cards or Caller ID Trunk Cards, two Digital Station Cards, one Voice Mail Card, and one Miscellaneous Function Card.

CPUMEM Common Control Card

The CPUMEM common control card is the fundamental component for system operation. This card is installed in a dedicated MAIN card slot and contains the Central Processing Unit (CPU), X-EO Operating System and Highway Controller.

The CPUMEM Controller Card is the standard processor for the X-EO system. It controls all X-EO system functions with a 32-bit processor. The CPUMEM Controller Card performs highway controller functions, and synchronizes digital trunk clock timing and system highway timing.

Memory. The CPUMEM card contains 2 megabytes of RAM and 4 MB of flash memory to store the user database. To retain the stored contents of the RAM without the system power supply, nickel-cadmium batteries are provided with the CPUMEM card.

Highway Controller. The CPUMEM has one two-way highway consisting of thirty-two PCM time division multiplexed data channels. This two-way highway channel provides voice and data communication through the system ports. A 16 MHz microprocessor controls the PCM highways with the aid of a slave processor that directly communicates with the CPU.

X-EO Operating System. The CPUMEM contains the 68EC020/25 MHz Central Processing Unit (CPU) and also 4MB of Intel ® flash memory that stores the X-EO operating system.

System Port Interface Cards

X-EO supports 6 digital stations and 2 single-line/analog stations in standard configuration. System Port Interface Cards may be installed to add digital stations, lines, voice mail, and miscellaneous function capability. Five System Port Interface Cards are available.

Digital Station Interface Card

A Digital Station Interface Card provides four station terminal ports for digital key telephones that are connected through star wiring. Each port connects the station terminal with a two-wire cable that carries bi-directional data transmission (ping-pong transmission).

Ports: 4 ports/card.

Stations: 1 port required for Digital Multiline Telephone, Digital Key Telephone, Digital Wireless Key Telephone

Integrated Voice Mail Card

The Integrated Voice Mail card is standard on X-EO. It provides four voice mail/auto attendant ports. It supports 50 voice mail boxes, 4 system mailboxes/automated attendant menus and 8 hours of message storage capacity.

Ports: 4 ports/card.

Capacity: 8 hours message storage, 50 voice mailboxes, 4 system mailboxes/menus.

Caller ID Trunk Interface Card

A Caller ID Trunk Card interfaces the X-EO to two Caller ID Loop Start circuits. This card is required to use the Caller ID feature.

Ports: 2 ports/card

Additional Power: None

Features: 600/900 Ohm impedance selection, Long/Short distance selection

ISDN BRI Line Interface Card

The ISDN BRI Line Interface Card interfaces the X-EO to one ISDN BRI (Basic Rate Interface) line. Each ISDN BRI line contains two B (Bearer) channels for voice and data transmission and one D channel for signaling.

Interface: 3 channels/card (1 PRI line with 2 B channels + 1 D channel)

Features: ISDN Basic Rate Interface

Miscellaneous Function Card

The Miscellaneous Function Card converts the system ports for input/output functions. These functions include an external Background Music Source (BGM), Paging Applications, Remote Control Relays and Sensor Inputs.

Ports: 5 ports

Functions: BGM input, output to paging amplifier, two paging zone control, two programmable relays or sensor inputs.



System Features

This section explains some of the major system features in your X-EO system.

ANI Alphanumeric ID

ANI (Automatic Number Identification) numbers may be assigned a 16-character alphanumeric ID to identify the calling party, calling party's telephone number, type of call, or purpose of call. (Note: The telephone company often transmits ANI calls with both a number and a alphanumeric ID.) The ANI alphanumeric ID is displayed on the station LCD when a call is received on a ISDN BRI line with ANI service (requires an ISDN BRI Line Interface Card). A call can be routed to a station, master hunt group, or voice mailbox according to the ANI information received.

The information displayed on the station LCD during calls on ANI lines may be customized through database programming. During a call on ANI lines, you may change the way the call information is displayed by pressing the [CID Display Change] key. There are ten different display modes available to assign to the [CID Display Change] key. You can scroll through each programmed display mode choice each time you press the [CID Display Change] key.

Automatic Number Identification (ANI) Trunks

X-EO will support ANI trunks provided by the telephone company on ISDN BRI lines. The ISDN BRI Line Interface Card is required for ANI operation.

Automatic Relay Control

The X-EO system may be programmed to operate a one-shot relay at a fixed time each day.

All Ring Hunt Group

All Ring Hunt Group ring all the stations in the group simultaneously instead of call hopping from one hunt group to another after a predetermined time. This allows calls to a hunt group to be answered expeditiously.

Background Music

If your X-EO system is connected to an external music source through the Miscellaneous Function Card, the music played may be heard through the speaker in any X-EO telephone connected to the system. This same music source may be played through an external paging system.

Call Forwarding

Fixed Call Forwarding

Allows your X-EO installer to predefine call forwarding patterns for extensions. Fixed Call Forwarding does not activate the lamp on the Call Forward key and calls will always forward in the programmed sequence. Fixed Call Forwarding may be overridden by Call Forwarding entered at your telephone. All three forwarding modes may be programmed for Fixed Call Forwarding.

Flexible Call Forwarding

Allows the user to forward calls to an internal destination or an outside telephone number (using Personal Speed Dial numbers 90-99). The user can set separate call forward destinations for internal incoming and outside line incoming calls. For instance, you could set all intercom calls to go to your cell phone, and all outside line calls to be forwarded to your voice mailbox. The Flexible Call Forwarding feature also incorporates Follow Me capabilities.

Remote Call Forwarding

Allows you to direct outside line and/or intercom telephone line calls to forward to an external telephone number (using Personal Speed Dial numbers 90-99). Example forwarding locations include an answering service, a mobile phone, or a home telephone.

Caller ID Alphanumeric ID

Caller ID numbers may be assigned a 16-character alphanumeric ID to identify the calling party, calling party's telephone number, type of call, or purpose of call. (Note: Caller ID calls are often transmitted by the telephone company with both a number and a alphanumeric ID.) The Caller ID alphanumeric ID is displayed on the station LCD when a call is received on a Caller ID trunk (requires a Caller ID Trunk Card card). A call can be routed to a station, master hunt group, or voice mailbox according to the Caller ID information received.

The information displayed on the station LCD during calls on Caller ID lines may be customized through database programming. During a call, you may change the way the call information is displayed by pressing the [CID Display Change] key. There are ten different display modes available to assign to the [CID Display Change] key. You can scroll through each programmed display mode choice each time you press the [CID Display Change] key.

Caller ID / ANI / DNIS Number Storage

When a call is received on a caller ID (Caller ID Trunk Card) or ANI (ISDN BRI Line Interface Card) line, X-EO will capture and store in the system memory information about the caller received with the call. This information includes the caller's telephone number and name, date and time of the call, trunk number, and destination station. This information can be output as a system event code or to SMDR. Information for up to 50 calls can be stored in the system memory on a first in, first out basis. Two modes of storage are available for this feature:

- Abandon Call Storage
- All Call Storage

X-EO General Description

Abandon Call Storage. When Abandoned Calls Only is selected as the storage mode for this feature, information will only be stored for the following types of calls:

- Caller hangs up or is disconnected before the call is answered.
- Caller hangs up or is disconnected while on hold or during hold recall.
- Caller hangs up or is disconnected during camp-on transfer or camp-on recall.

All Call Storage. When All Call is selected as the storage mode for this feature, the system will capture and store information about the caller received with all calls on caller ID (Caller ID Trunk Card) or ANI (ISDN BRI Line Interface Card) lines.

Caller ID Trunks

X-EO will support Caller ID trunks provided by the telephone company. The 2CITK card is required for caller ID operation.

ISDN BRI Caller Name ID

The ISDN BRI interfaces of the X-EO can now receive Caller Name ID information from an incoming ISDN BRI trunk. The information displays on the LCD of the key telephone.

Conversation Recording

The Conversation Recording feature allows an X-EO station user to record a station-to-station, outside line, or conference call to voice mail. This feature requires the VML voice mail card and is available at any station that has been assigned a Conversation Recording key.

Delayed Ringing

Allows outside lines ringing at a telephone to ring at another telephone or group of telephones after a predetermined period of time.

Dialed Number Identification Service Alphanumeric (DNIS)

DNIS numbers may be assigned a 16-character alphanumeric ID to identify the number the calling party dialed to reach the X-EO. (Note: the Telephone Company often transmits DNIS calls with both a number and a alphanumeric ID.) The DNIS alphanumeric ID is displayed on the station LCD when a call is received on an ISDN BRI line with DNIS service (requires ISDN BRI Line Interface Card card). A call can be routed to a station, master hunt group, or voice mailbox according to the DNIS information received.

The information displayed on the station LCD during calls on DNIS lines may be customized through database programming. During a call, you may change the way the call information is displayed by pressing the [CID Display Change] key. There are ten different display modes available to assign to the [CID Display Change] key. You can scroll through each programmed display mode choice each time you press the [CID Display Change] key.

X-EO General Description

Dialed Number Identification Service (DNIS) Trunks

X-EO will support DNIS trunks provided by the telephone company on ISDN BRI lines. The ISDN BRI Line Interface Card is required for DNIS operation.

Direct Inward Line

Each outside line can be assigned to ring at up to 16 extensions. A different ringing assignment can be programmed for Day and Night modes. A ringing tone for each line can be selected from four available ringing tones. If a delayed ringing assignment is programmed for the line, the ringing changes to an incoming alarm when delayed ringing begins.

Direct Inward Line - Hunt Group

Outside lines can be programmed to ring at the stations assigned to a Hunt Group. The line will ring at the first available station in the hunting sequence. The same trunk can be assigned to ring at different hunt groups for day and night modes. If a station is busy or does not answer within the pre-set time, the call will ring at the next station in the hunting sequence.

Emergency 911 Service Using Area Routing

X-EO may be programmed to provide 911 service using Area Routing. Area Routing can be used as an alternative method of routing 911 calls to provide a unique Caller ID/ANI number that represents the location of the caller in an office building.

E-Response Help Call Feature

With this feature, any system extension can simultaneously call a group of extensions. As part of this feature, stations may be configured with an emergency attribute. When these stations remain off-hook or pause while initiating an intercom call, a group call is automatically made to stations defined in an E-Response Group. Some specific applications of this feature are assisted living facilities, schools, medical facilities, or office buildings where a people might need help from attendants or co-workers.

Note: This feature is not to be used as a replacement for Emergency 911 services.

External Paging

X-EO can be connected to an external paging system when the optional Miscellaneous Resource Card is utilized. The X-EO will support two external paging zones.

Flexible Ringing

Outside telephone lines directed to telephones may be assigned one of four tones to provide an audible identification of the type of call.

Flexible Station Numbering

X-EO features a flexible numbering plan. At default, each station is assigned a three-digit extension number. Through system programming, system numbering may be changed to two, three, or four digits in length.

X-EO General Description

Hunt Group Delayed Ringing

A Hunt Group may be programmed as the delayed ringing assignment for a trunk. If a call on an outside line is not answered at the ringing stations within a programmable duration, the call starts ringing to a hunt group. This feature makes it possible for you to send delayed calls to certain departments to voicemail or another department. For example, the Sales line can have a different delayed ringing destination than the Support line. If Sales is closed, calls might be forwarded to Support or to a Sales voice mailbox.

Internal Paging

When X-EO is equipped with X-EO digital key telephones, any telephone may make a page announcement that will be broadcast through the speaker of assigned telephones.

ISDN Lines

X-EO will support ISDN BRI (Basic Rate Interface) lines when the optional ISDN BRI Line Interface Card is utilized. A maximum of 3 ISDN BRI Line Interface Cards may be installed in the system. Each ISDN BRI Line Interface Card supports one ISDN BRI Line (2 B channels + 1 D channel).

Loud Bell Interface

Outside telephone lines may be directed to ring a loud bell when X-EO is equipped with the optional Miscellaneous Interface Card. Each Miscellaneous Interface card will support two loud bells.

Master Hunt Group

X-EO will support 10 master hunt groups. Each master hunt group can contain up to 16 extensions.

A hunt group is a group of telephones that is assigned a common access code. When this code is dialed, X-EO will search for an idle telephone in that group. There are two ways that calls may search for an idle extension, Terminal and Distributed Hunting. In Terminal Hunting the incoming calls always start hunting from the first telephone in the group. In Distributed Hunting the incoming calls start hunting from the telephone following the last called telephone. In both cases, calls will hunt to the next telephone if a telephone does not answer in a predefined period of time, is busy, and in Call Forward, Absence Message or Do Not Disturb mode.

Music On Hold

If your X-EO system is connected to an external music source through the MAIN Motherboard, the music played may be heard by callers that have been placed on Hold or Call Park.

Optimized Routing

Optimized Routing is frequently referred to as either Least Cost Routing (LCR) or Automatic Route Selection (ARS). This feature allows X-EO to automatically select the most inexpensive way to make an outgoing call. The system identifies the dialed number and then selects the most cost-effective outside line group. If a line in the first choice outside line group is not available the system may be programmed to select an alternate outside line group. The Optimized Routing package in X-EO provides the following features:

- Eight routing plans
- Eight outside line group choices per routing plan
- Weekday, Saturday, Sunday, Holiday selection
- Three time periods per day
- Deletion and insertion of digits

Paging

X-EO provides the following paging features:

All Call

Allows you to make an announcement either through the speakers in the Digital Telephones and/or an External Paging System.

Group Call (Internal)

Allows you to page through the speaker in a group of telephones. There may be 10 groups with a maximum of 16 extensions per group.

Zone (Two External Paging Zones)

Allows you to access individual groups of external paging speakers.

Meet-Me Page Answer

Allows you to answer a page from any telephone that is in the same Meet-Me Page Answer group.

Personal Ringing Tones

Station users may choose one of eight distinctive ringing tones to distinguish their station from others. The selected ringing tone is audible for all incoming CO calls, camp-on calls, (tone) intercom calls and during busy override.

Power Failure Backup Memory

In the event of a power failure, the system programming will be maintained for a period of two weeks by a rechargeable Ni-Cad battery.

Power Failure Backup System

Your X-EO system may be equipped with gel cell batteries to maintain normal system operation in the event of a power failure.

SMDR

Station Message Detail Recording (SMDR) allows you to connect an RS232C compatible serial printer to X-EO. This printer will show all incoming and outgoing call activity. The following information will be shown:

- Call number 001-999
- Date of the call
- Extension number that made/received the call
- Start time of the call
- Duration of the call
- Outside line number used for the call
- Number dialed for the call
- Account code number for the call
- Other notes for the call

Station Coaching

Station Coaching includes two actions: Monitoring and whisper paging (hereafter called 'whisper monitor'). A digital key telephone is able to whisper monitor a digital key telephone after invoking the Monitor feature. The Monitoring station can whisper monitor other stations while on an outside call or an intercom call and press the **†** key to speak to the monitored station without the outside party hearing.

System Clock

X-EO is equipped with a real time clock that provides an indication of the current time and duration of both incoming and outgoing calls on the LCD display of X-EO telephones. The clock also has a perpetual calendar that eliminates the need to change the date.

System Speed Dial

Up to 90 frequently dialed numbers may be programmed in the system for abbreviated dialing. The numbers may or may not be restricted to certain extensions.

Text Messaging

The text messaging feature allows station users to send a 16-character text message to another system extension. There are two types of text messages, system text messages and personal text messages. A text message may be sent as either a *busy bypass/no answer text message* or as a *stored text message*. Busy bypass/no answer text messages appear on the recipient's LCD immediately. Stored text messages do not appear on the display, but instead, light the recipient's [TXT MSG] key. Stored text messages are saved in memory until the recipient manually displays them.

Additionally, you can reply to a whisper page using a text message.

Up to 90 system text messages and 10 personal text messages are available to each user. System text messages are accessible by all X-EO station users. Personal busy bypass text messages are programmed by the individual station user and may only be accessed at the specific station set.

X-EO General Description

Toll Restriction

The X-EO system provides flexible toll restriction of both area and office codes, as well as the subscriber number. There are eight levels of restriction.

Tone / Pulse Dialing

Caller ID trunks may be programmed for either Touch Tone or Rotary dialing to accommodate your local telephone company central office.

Trunk Interfaces

X-EO supports the following types of outside lines:

- Caller ID/Loop Start trunks
- ISDN BRI lines

Uniform Call Distribution (UCD)

Allows telephone lines to be directed to a group of telephones. Calls to the UCD group may search for an idle extension in either a Terminal or Distributed Hunting pattern. In Terminal Hunting the incoming calls always start hunting from the first telephone in the group. In Distributed Hunting, the incoming calls start hunting from the telephone following the last called telephone. In both cases, calls will hunt to the next telephone if a telephone does not answer in a predefined period of time, is busy, and in Call Forward, Absence Message or Do Not Disturb mode. X-EO also provides the ability to send unanswered calls to an overflow or secondary answering position after a predefined period of time. This second answering position may be another UCD group, hunt group, extension, or attendant.

Voice Mail/Automated Attendant Integration

X-EO can be equipped with an internal voice mail/automated attendant system when the optional Voicemail card is utilized. X-EO will allow you to transfer, forward and record calls to a mailbox and provides you with a unique voice mail message waiting indication. X-EO will also allow calls transferred from the automated attendant to be directed to messages other than the initial greeting if the desired party does not answer.



Digital Telephone Features

Alphanumeric Speed Dial By Name

The Alphanumeric Speed Dial By Name feature allows you to access the speed dial list alphabetically. When you want to place a outside line outgoing call with the Speed Dial feature, you can search the desired Speed Dial destination alphanumerically by name.

Abandoned Call / All Call Storage

Allows you to display the telephone number and ID for a call on a caller ID, ANI or DNIS line. This feature may be programmed to capture information for Abandon Calls Only, or All Calls. Information on up to 50 calls may be stored in system memory.

Absence Message Display

Allows you to leave an advisory message for a display telephone caller if you should leave your office. Four messages are available:

- Return at (time)
- Return on (date)
- Meeting at (time)
- Call (number)

This feature only works with a Multipurpose key programmed for Absence Message [ABS.MSG]

Account Code

Allows you to enter a 1 to 12 digit code to either identify the caller or identify the party the call was made for. These codes are printed out with the SMDR information. Account code entry may be done before the party answers, during a conversation, or after the other party hangs up.

Alphanumeric Display

X-EO Digital Multiline Display Telephones have a 2-line, 16-character alphanumeric LCD display that provides the following information:

- Abandon Call/Call Log Information
- Absence Messages
- Account Code Input
- Call Duration Timer
- Callback CO/ICM
- Called Party Identification
- Called Party Status - BUSY/DND
- Caller ID/ANI/DNIS
- Calling Party Identification
- Camp-On
- E-Response Help Call Station Identification
- Forwarding Extension Numbers
- Message Waiting Identification
- Real Time Clock
- Recall CO/ICM
- Reminder
- Ringing Outside Line Identification
- System Name
- Text Messages

Alternate Tone/Pulse Dialing

Allows you to change the dial signaling from Dial Pulse (Rotary) to DTMF (Touch Tone) after an outside call has been answered. This will allow you to use enhanced communications devices like Voice Mail and Automated Attendant.

Answering Machine Emulation (Voice Mail Monitor)

Station users may monitor voice mail messages as they are recorded. During recording monitor, the station user may select to initiate a conversation with the caller. X-EO may be programmed for Automatic Monitor or User Initiated Monitor.

Automatic Outside Line Answer/Hold

This programming option allows you to receive a second call automatically by simply pressing the Hold, Call Park, or existing outside line key.

Automatic Repeat Dialing

Allows you to instruct X-EO to dial an outside party until they answer. This is accomplished by having X-EO periodically activate the speaker and dial the outside party's number. Should they answer, you will hear their voice through the speaker. In order to establish a conversation, you must pick up their receiver. Should you be away from your telephone when the called party answers, they will hear silence and X-EO will try to call later.

X-EO General Description

Background Music

An external music source such as a FM tuner may be connected to the optional MAIN Shared Resource Card to provide background music either through the speaker in the telephone or an external paging system. The music is automatically turned off if the telephone or external paging system is in use.

Barge-In

Allows you to enter an existing conversation. A warning tone is sent to inform the parties that a three-way conference has been established.

Built-In Speakerphone

X-EO Digital Telephones are equipped with a Built-In Speakerphone. Use of the Speakerphone allows for complete hands-free operation on external calls.

Busy Intercom Callback

Allows you to instruct X-EO to inform you when a busy extension that you called becomes idle. When the extension becomes idle, X-EO will call you back. After you answer, the desired extension will automatically be dialed. If your telephone has a display, the display will inform you that the call is a Callback and identify the extension. You may leave one Callback message.

Busy Number Callback

Allows you to instruct X-EO to periodically call you to try calling a previously dialed outside number again. To have X-EO dial the number simply pick up the receiver.

Busy Outside Line Queuing

Allows you to instruct X-EO that you wish to be notified when the outside lines are no longer busy. When an outside line becomes available, your telephone will ring. Picking up the receiver will give you outside dial tone. If you previously dialed the outside number, that number will automatically be dialed when the receiver is picked up.

Busy Overriding

Allows you to alert a busy extension user that you are waiting to speak with them. The busy extension user will hear periodic tone bursts through the speaker. If they have a display, it will identify the calling party.

Call Coverage

The Multipurpose Keys on the Digital Telephones may be programmed to provide both audible and visual indication of a call ringing at another extension. Calls made to an extension that is represented as a Call Coverage key on another telephone may be answered by that telephone by pressing the Call Coverage key. The visual indication is immediate and the audible indication may have one of the three modes: immediate, delayed, or no ring. When the extension monitored by a Call Coverage key is idle or on a call, the Call Coverage key will function as a Direct Station Selection/Busy Lamp Field key. The Call Coverage feature will support Intercom Tone (ringing) and Outside Line calls. A slow-flashing green lamp indicates intercom calls. Outside line calls are indicated by a fast flashing green lamp.

Call Forwarding

Allows you to send your calls to another extension automatically. There are three types of forwarding: All Calls, Busy/ No Answer Calls, and No Answer Calls.

All Calls

Forwards all calls to another extension automatically.

Busy/No Answer

Forwards all calls when you are busy on another call or do not answer a call.

No Answer

Forwards calls only when the extension does not answer within a certain time period.

Follow Me

When you move to a different extension, you may change the forwarding destination from the extension you originally set to the extension that you are now using:

External Call Forward

The External Call Forward feature allows the user to forward outside and intercom calls to an external line by using a personal speed dial number. Any telephone or voice mail port can use this feature.

Call Monitoring

Allows you to monitor another extension's conversation. This monitoring is silent and your extension's transmitter is automatically turned off.

Call Park

Call Park is similar to Hold but allows others to pick up a call even though they do not have a key representing the desired outside line.

Call Park/Swap

Allows you to alternate between two conversations.

X-EO General Description

Call Pick-Up

Allows you to answer a call ringing at another telephone. There are three types of Call Pick-Up: Direct Call Pick-Up, Internal Group Call Pick-Up, and External Group Call Pick-Up.

Direct Call Pick-Up

Allows you to answer a call ringing at any extension in the office.

Internal Group Call Pick-Up

Allows extensions to be grouped together. This grouping eliminates the need to dial the ringing extension number in order to answer the call.

External Group Call Pick-Up

Allows you to answer a call ringing in a Group Call Pick-Up group that they are not part of.

Camp-On

Allows you to alert a busy extension user that an outside call is waiting for them to answer. The busy extension user will hear periodic tone bursts through the speaker. If they have a display, the display will first indicate the extension that sent the call followed by CAMP-ON. If the busy extension does not respond within a specified period of time, the call will return back to you.

Clear Call

Allows you to initiate a new intercom call without having to hang up if the called extension does not answer or if there was a dialing mistake.

Conference

X-EO allows you to converse with three other people in one conversation. There may be any combination of inside extensions or outside lines. X-EO will support a maximum of two four-party conferences simultaneously.

Add-On

Up to one outside + three inside parties or four inside parties

Multiline

Up to three outside + one inside parties

Trunk-To-Trunk

Up to two outside parties

Consultation Hold

Places an outside call on temporary hold before a transfer or conference is completed. The call will automatically return to you if the desired transfer extension does not answer or if you dialed incorrectly. If you have a display telephone, the display will show Camp On RCL and the name of the person that the call was sent to.

X-EO General Description

Conversation Recording

The Conversation Recording feature allows an X-EO station user to record a station-to-station, outside line, or conference call to voice mail. This feature is available at any station that has been assigned a Conversation Recording key. *Note: In certain states it is illegal to intercept and/or record telephone calls.*

Delayed Ringing

When an incoming outside line call is not answered within a pre-set time, a second group of stations start ringing and the ringing signal changes to an incoming alarm. A delayed ringing assignment can be programmed for each line. This assignment is the same for both Day and Night modes. If the line is programmed for attendant outside line intercept, the primary and delayed ringing stations will stop ringing when attendant intercept occurs.

Direct Outside Line Appearance

Digital Telephones may have Multipurpose keys programmed as an outside line for incoming and outgoing calls.

Direct Station Selection/Busy Lamp Field

The Multipurpose keys on the Digital Telephones may be programmed to allow one touch intercom calling to preassigned extensions. These keys will provide an indication if the extension programmed to that key is busy or not. If the extension is busy the light will be lit.

Distinctive Ringing - Outside Line Calls

Each outside line can be assigned one of four available ringing tones. This feature applies only to X-EO Key Telephones.

Distinctive Ringing - ICM/Outside Line

Intercom and outside line calls provide different ringing tones.

Do Not Disturb (DND)

Allows you to make your telephone busy so you will not be interrupted by telephone calls. However, the following type of calls may override Do Not Disturb: DSS Calls, Operator Calls, Secretarial Calls and Executive Override Calls.

Exclusive Hold

Allows you to place an outside call on Hold that cannot be picked up by another extension.

Executive Override

Is the same as a Busy Override with the additional ability to override an extension in Do Not Disturb. This override may be either a voice announcement or tone signal.

X-EO General Description

Extension Number Display

Allows you to display your extension number if you have a display telephone.

Feature Key Display

Allows you to display what is programmed on your telephone's feature keys.

Flash

Allows you to receive dial tone on the same outside line without having to hang up. Flash may also be used to receive intercom dial tone to place another intercom call. Two different Flash settings may be programmed to allow for the use of Centrex or PBX features.

Flexible Key Assignment

X-EO digital telephones have programmable keys that may be programmed to operate specific system features. The following features can be assigned to these keys.

| Feature | Phone Display | | Feature | Phone Display |
|-----------------------------------------|--------------------------------|--|---------------------------------------|--------------------------------|
| | ((FEAT][#][9] + [key] from KT) | | | ((FEAT][#][9] + [key] from KT) |
| Abandoned Call at Station Key | Abandon Call Sta | | Conversation Record Key | REC |
| Abandoned Call at Trunk Group Key | Aban Call Trk Gp | | DCKT970 Virtual Key | Wireless Virtual |
| Abandoned Call Delete | Del Abandon Call | | DID Remote Call Transfer | PTRAN |
| Abandoned Call System Key | Abandon Call Trk | | Direct Call Pick-Up Key | Spec. Call Pickup |
| Absence Message Key | Absence Message | | Direct CO Line Termination Key | COL # |
| Account Code Entry Key | Account Code | | Direct Station Signaling Key | DSS # |
| Add-On Conference/Barge-In Key | ADD | | Display Scroll Key | LCD Mode Change |
| All Call - Press Page Key | Press Page | | DP to DTMF Signaling Change Key | Dial Reverse |
| All Call Page Key | ALL | | Extension Database Display Key | EXT Number |
| Automatic Repeat Dialing Key | Auto Repeat Dial | | External Group Pick-Up Key | Call Pickup Out |
| Background Music Key | BGM | | Feature Operation Key | Feature |
| Busy Number Callback Key | Timed Trunk Queu | | Flash Key (Long) | Flash |
| Call Connect Key | Connect | | Flash Key (Short) | Short Flash |
| Call Coverage Key – Delayed | Delayed # | | Flexible Qualification Code Entry | QUALIFY |
| Call Coverage Key – Immediate | Immed. # | | Floating CO Group Selection Key | FLT |
| Call Coverage Key – No Ring | No ring # | | Floating CO Group Termination Key | FLT # |
| Call Forward Key | Call Forward | | Group Call Key (internal page groups) | Group # |
| Call Monitoring Key | Monitor | | Group Park Key | Group Park # |
| Call Park Key | Individual Park | | Headset Control Key | Headset or HEADCTL |
| Call Park Pick-Up Key | Call Park Pickup | | Hold | Hold |
| Call Release Key (for headset stations) | Release | | Hold/Do Not Disturb Key | HOLD/DND |
| Caller ID/ANI/DNIS Display Change Key | Display Change | | Hold/Quick Forward Key | HOLD/Quick FWD |
| CNIS Off Key | CNIS OFF | | Hunt Group Key (external page groups) | Hunting |

X-EO General Description

| Feature | Phone Display | | Feature | Phone Display |
|-------------------------------|--------------------------------|--|--------------------------------------|--------------------------------|
| | ((FEAT][#][9] + [key] from KT) | | | ((FEAT][#][9] + [key] from KT) |
| ICM Calling Mode Key | Calling Mode CHG | | Speed Dial Key | Speed Dial |
| Intercom Line Call Back Key | ICM Call Back | | Speed Dial Key (Personal)– One-Touch | Speed Dial 90-99 |
| Intercom Line Termination Key | ICM | | Speed Dial Key (System)– One-Touch | System Speed 00-89 |
| Internal Group Pick-Up Key | Call Pickup In | | Station Lock Password Key | Station Lockout |
| Last Number Redial | Last No.Redial | | Substitute Key | Substitute |
| Meet-Me Pick-Up Key | Meet Me | | Text Message Group Key | MSGGPn |
| Memo Dial Key | Memo Dial | | Text Message Key | TXT MSG |
| Message Key | MSG or MBOX | | Text Message Preprogrammed Key | TXT MSGn |
| Microphone Cut-Off Key | MIC | | Time Reminder Key | Reminder |
| Optimize Key | FLT 00 | | Transfer Key | TRN |
| Override Key | Over Ride | | Trunk Call Back Queuing Key | Trunk Queuing |
| Privacy Release Key | Privacy Release | | Universal Night Answering Key | UNA Pickup |
| Remote Call Forwarding Key | Remote Call FWD # | | Voice Mailbox Access Key | VML Hunting |
| Remote Control Key | Relay # | | Voice Mailbox Monitor | VML Monitor |
| Saved Dial Key | Save No. Redial | | Voice Message Playing Key | Message Service |
| Separator Key | Separate | | Voice/Data Exchange Key | V-Data Exchange |
| Speaker Key | Speaker | | 911 Display Clear Key | 911 Display CLR |

Floating Outside Line Group Access

Allows for a number of outside lines to be assigned to one of 10 groups. These groups may be used for incoming calls, outgoing calls or both incoming and outgoing calls.

Forced/Verified Account Code

Requires you to enter a 1-12 digit code to make outside calls. These codes may be either fixed or variable in length and each telephone may be programmed for one of the four following account code entry options.

- Forced-Toll:** code entry required only for toll calls
- Forced-All:** code entry required for all calls
- Verified-Toll:** valid code entry required only for toll calls
- Verified-All:** valid code entry required for all calls

A table of 10 telephone numbers may be programmed to allow calling without account code entry. This option is very helpful because it allows important emergency numbers to be dialed by anyone. The verification table, for verified account code entry, shares memory with System Speed Dial and may contain 80 account codes. The Forced/Verified Account Code programming allows the option of having or not having the account code displayed on the LCD of the telephone and the SMDR printout.

X-EO General Description

Group Monitoring

Allows you to let others listen to your conversation through the speaker of the telephone while you converse using the receiver.

Group Park

By placing a call on Group Park all extensions with the appearance of that Group Park key will have a flashing indication and be able to pick up that call.

Hands-Free Answerback on Intercom

Allows you to answer an intercom call without lifting the receiver or pressing the Speaker key. The called extension will hear a tone to indicate that a two-way communication between their extension and the calling extension has been established. The called extension may turn the off the microphone if desired.

Headset Key

Allows you to alternate between using the handset (receiver) and the headset.

Headset Connection

Digital telephones can operate with a headset instead of the handset (receiver). Use of the headset requires the handset to remain in the cradle of the telephone. The Headset Control key provides one-touch control of the headset.

Hold/DND, Hold Recall Time and Hold/Quick Forward

Any outside call can be put on Hold by using the Hold, Do Not Disturb key. This call will recall after a certain amount of time elapses. Should this occur, a ringing tone will sounds that will be different than the tone of an incoming call. If after a certain amount of time the call is not picked up, it will automatically be forwarded to the attendant.

Additionally, you route calls to a fixed designation (such as a voice mailbox) using the Hold/Quick Forward key.

Hot Line

If your telephone is programmed to have this feature every time you lift the receiver or press the Speaker key [SPKR] a call will be placed to a predetermined extension.

Howler Tone

If your receiver is off hook for more than 20 seconds with no action taken, X-EO will provide a howler tone to alert you of this condition.

I-Use / I-Hold Indication

The Multipurpose keys on X-EO telephones have dual colored LEDs to distinguish outside line calls in progress or on hold at a station from calls at other stations. Several LED lamp patterns are also provided, enabling users to identify call status. Versa-Phones have red LEDs only.

X-EO General Description

Intercom (ICM)

All telephones in an X-EO system may place an intercom call to another telephone for internal conversations.

Last Number Redial

Allows you to automatically dial the last outside number called.

Master Hunt Groups

X-EO allows extensions to be programmed into Hunt Groups. Each Hunt Group is assigned an access code and when dialed the system searches for the first idle extension.

Memo Dial

Allows you to save a telephone number in memory while you are speaking on an outside line. The memory is shared with Save Number Redial.

Message Waiting

Allows you to light a lamp at another extension to inform them that you wish to speak with them.

Message Waiting Indication

An X-EO Digital Telephone Multipurpose Key programmed as a MBOX key for a specific voice mailbox will flash red to indicate a message waiting in that mailbox. Pressing the MBOX key will automatically access the assigned voice mailbox. When this feature is programmed, the Message Waiting feature described above is disabled.

Microphone Cut-Off

Allows you to disable the microphone in your telephone for privacy.

Off-Hook Outgoing Call

This programming option allows you to automatically dial an outside party by simply picking up the receiver. This feature makes use of the System Speed Dial feature.

Off-Hook Outside Line Answering

Allows you to answer an outside call without having to press the key representing the ringing line.

X-EO General Description

Off-Hook Outside Line Queuing

Allows you to instruct X-EO that you wish to wait for an outside line when all outside lines are busy. This feature is used only when outside lines are grouped to appear under one or several outside line keys.

One Touch Optimized Key

The One Touch Optimize Key provides one-touch access to optimized routing. To make an optimized call, a user simply presses the [Optimized] key.

On-Hook Dialing

Allows you to dial an extension or outside line without having to lift the receiver. The receiver must be picked up to converse if your telephone is not equipped with a Speakerphone.

Outside Line Call Restriction

The system can be programmed to restrict any telephone from making outside line calls on specified outside line groups.

Outside Line Pick-Up Restriction

The system can be programmed to restrict stations from accessing incoming calls on specific outside lines. Three different levels of restriction are available. This does not affect the restricted station's ability to make outgoing calls on these lines.

Personal Ringing Tone

You may choose one of eight personal ringing tones to distinguish ringing at your station from others.

Preset Dial/Backspace Dialing

This programming option allows you to dial an intercom or an outside telephone number and have the number appear on the display of your Digital Multiline Display Telephone before the call is placed. This procedure ensures that the correct number will be dialed.

Prime Line Access

This programming option allows you to have immediate access to either your intercom extension, a desired outside line, or optimized routing upon going off-hook.

Privacy/Privacy Release

All conversations are private and no one may enter a conversation unless you release the privacy for that conversation.

X-EO General Description

Private Line

This programming option allows a telephone to have a dedicated outside line appear on one of its Multipurpose keys. This line will have the following characteristics:

- It will ring if the station is in Do Not Disturb
- It will not be Call Forwarded
- It cannot be accessed by other extensions

Protected Station

This programming option provides you the ability to prevent any calls from overriding.

Quick Mode Operation

This programming option enables you to access an outside line or your intercom extension by simply pressing the desired key. This activates the speaker and allows for immediate On-Hook Dialing. If your extension has a Speed Dial number assigned to a Multipurpose key, X-EO will automatically select a line and dial the number.

Remote Relay Control

Allows you to activate/control a remote device. Some examples would be a door opener or a monitor camera.

Ring Muting

Allows you to turn the ringer, microphone, and speaker off at your telephone. Ring Muting is recommended instead of Do Not Disturb when the Call Coverage feature is installed.

Save Number Redial

Allows you to save a number that you dialed when you receive either a busy signal or no answer. The memory for this feature is shared with Memo Dial.

Shift Call

Allows you to initiate a new intercom call without having to hang up if the called extension does not answer or if there was a dialing mistake. This differs from Clear Call by allowing you to dial the last digit of an extension number to reach the next extension.

Speed Dial

Allows you to have abbreviated outside number dialing.

System Speed Dial

Allows you to have access to frequently dialed outside numbers that are common to everyone in the office. The numbers may be 32 digits in length and may include the insertion of a pause. There may be 90 System Speed Dial Numbers.

Personal Speed Dial

Allows you to program up to 10 frequently dialed outside numbers for either one-touch or abbreviated dialing. The numbers may be 32 digits in length and may include the insertion of a pause.

Station External Ringer Connection

Allows for the connection of an external ringer through an Loud Ringer Speaker Unit to provide loud ringing on incoming calls.

Station Restriction Password

You may enter a personalized password to prevent anyone from using your telephone when you are not present. The password must be programmed through system programming and may be six digits in length.

Station Class of Service Change

Station users may change various personal parameters on their X-EO telephone from their network PC using the X-EO User Programmer Version 2.0 software. A brief list of the changeable parameters includes Station Username and Password, Personal Speed Dial Numbers, Personal Text Messages, Key Layout and Fixed Call Forward Destination. The IP SEGWAY Serial-to-Ethernet Gateway connected to the X-EO is required to access this feature.

Text Messaging

Allows you to send text messages to the display of another system extension.

System Text Messages

Allows you to have access to frequently used messages that are common to everyone in the office. The messages may be 16 characters in length. A maximum of 90 may be stored in system memory.

Personal Text Messages

Allows you to program up to 10 frequently used messages for either one-touch or abbreviated access. The messages may be 16 characters in length.

Time Reminder

Allows you to be reminded that it is a certain time. You are reminded by hearing tones that are generated from the telephone's speaker. If your telephone has a display the word Reminder will also appear. The time must be entered in military time.

X-EO General Description

Tone/Voice Calling

The calling mode for intercom calls may be switched between voice and tone signaling. X-EO may be programmed to allow either the calling party or the called party to have control of the signaling mode.

Transfer (Screened/Unscreened)

An outside line call may be transferred to another station by either announcing the call (Screened Transfer) or without announcing the call (Unscreened Transfer) to the receiving station. The called station can identify the transferring extension number if provided with an LCD display. Camped-on calls recall the station if not picked up within the programmed time (0-255 seconds) or if the receiving station is restricted from picking up the call. The TRAN key on key telephones may be used for this feature.

Transfer Off Premise

Off Premise Transfer enables any X-EO system station user on an outside line call to transfer the call to another party over a different outside line.

Transfer to Guest Mailbox

Allows access to voice mailboxes not associated with specific X-EO extensions. The guest mailbox may be accessed from any system extension.

Unanswered Incoming Outside Line Warning Tone

After a programmable time, incoming calls will ring with a different tone to warn you that your call is now in the delayed ringing mode at another extension.

Universal Night Answer

Allows you to answer calls that have been switched to ring at the Night Mode location.

Voice Mail Message

X-EO has been designed to provide full integration with the Integrated Voice Mail/Automated Attendant. X-EO will allow you to transfer, forward and record calls to a mailbox and provide you with a unique voice mail message waiting indication. X-EO will also allow calls transferred from the automated attendant to be directed to messages other than the initial greeting if the desired party does not answer.

Whisper Monitor

See Station Coaching on page 23.

Whisper Page

The Whisper Page feature allows X-EO station users to communicate with a busy extension without interrupting a call in progress. When a busy station is called using the Whisper Page feature, the busy station will hear the voice announcement through the handset receiver. The station receiving the Whisper Page can choose to communicate with the calling station by pressing the [*] key or using the Text Message Feature (pages 23, 37). Neither the voice of the station sending the whisper page, nor the busy station's response is audible to the outside party. The station sending the whisper page receives a confirmation tone and the busy station receives a conference tone to indicate their station is in the Whisper Page state.

Single Line Telephone Features

ACCOUNT CODE
ALL ATTENDANTS CALL
AUTOMATIC OUTGOING OUTSIDE LINE CALL
BUSY INTERCOM CALLBACK
BUSY NUMBER CALLBACK
BUSY OUTSIDE LINE QUEUING
CALL FORWARDING
 ALL CALLS
 BUSY/NO ANSWER
 NO ANSWER
 FOLLOW ME
CALL PARK
CALL PARK/SWAP
CALL PICK-UP
 DIRECT CALL PICK-UP
 INTERNAL GROUP CALL PICK-UP
 EXTERNAL GROUP CALL PICK-UP
CAMP-ON
CLEAR CALL
CONFERENCE
 ADD-ON
 MULTI-LINE
 TRUNK-TO-TRUNK
CONSULTATION HOLD WITH RECALL
DELAYED RINGING
DISTINCTIVE RINGING - ICM/OUTSIDE LINE
DIRECT OUTSIDE LINE APPEARANCE
DO NOT DISTURB
EXCLUSIVE HOLD
FLASH
FLOATING OUTSIDE LINE GROUP ACCESS
FORCED/VERIFIED ACCOUNT CODE
GROUP PARK
HOLD/HOLD RECALL
HOT LINE
HOWLER TONE
INTERCOM (ICM)
LAST NUMBER REDIAL
MASTER HUNT GROUPS
MESSAGE WAITING STUTTER DIAL TONE
OFF-HOOK OUTGOING CALL
OFF-HOOK OUTSIDE LINE QUEUING
PAGING
 ALL CALL
 GROUP CALL (Internal)
 ZONE PAGE (External)
 MEET-ME PAGE ANSWER
PRE-RINGING
PRIME LINE ACCESS
PRIVATE LINE
PROTECTED EXTENSION
SHIFT CALL
SPEED DIAL
 STATION
 SYSTEM
STATION RESTRICTION PASSWORD
TONE/VOICE CALLING
TRANSFER (SCREENED/UNSCREENED)
UNANSWERED INCOMING OUTSIDE LINE
 WARNING TONE
UNIVERSAL NIGHT ANSWER



Attendant Position Features

Abandoned Call Clear

Allows you to delete all abandoned calls in system memory by pressing the abandoned call delete key and entering your station password.

Alarm Clear

Allows you to clear the alarm indication(s) on the Attendant Console/Position.

Attendant Automatic Hold

Allows you to place the current conversation on Hold automatically by pressing the key representing a new call to be answered.

Attendant Override

Allows you to notify an extension user in Do Not Disturb that you wish to speak with them. The extension user is notified by tones through the speaker of a Digital Telephone and the ringing of a Single Line Telephone.

Automated Attendant

Integrated Voice Mail for X-EO provides an Automated Attendant feature. The Automated Attendant may be programmed to answer calls on specific lines according to the number dialed, time of day, or day of week. Attendant greetings are fully programmable. They can include a recorded greeting and up to 9 menu options.

Clock Set/Adjustment

Allows you to change the time for the system clock.

Direct Station Selection

Allows you to have one-touch access to call extensions using Direct Station Selection (DSS) keys on the Attendant Telephone.

911 Call Indication

When a system extension dials 911, the extension number of the station calling 911 will be displayed on the LCD of the attendant station. If E911 Routing is not successful, a "FAIL" indication will be displayed on the LCD. The alarm tone will sound at the attendant position when LCD indication is made. In order to clear the display, the Attendant must press a 911 Display Clear Key programmed on the extension.

X-EO General Description

Incoming Call Termination

Outside lines may be programmed to appear individually on Float keys or they may be grouped together to appear on one or several Float keys.

Night Mode

Allows you to change the ringing termination point for outside lines. This alternate point might be a loud bell, a telephone or a group of telephones. A programming option may be enabled to allow X-EO to automatically switch to the Night Mode at a certain time; however, you must manually switch the system back to the normal mode.

Operator Priority

The system operator has the ability to override any ringing or voice announce intercom call or paging call. This occurs when calls are made simultaneously, or another party other than the operator makes the call first.

Overflow Transfer

Allows you to limit the number of calls waiting to be answered at the Attendant Position. Once the maximum number of calls is reached, all additional calls will automatically forward to another location.

System Speed Dial Registration

You have the ability to register (program) the 90 System Speed Dial numbers. The numbers may be 32 digits in length and may include the insertion of a pause.

System Text Message Registration

You have the ability to register (program) the 90 System text messages. The messages may be 16 characters in length.



Integrated Voice Mail Features

X-EO comes fully equipped with Integrated Voice Mail/Auto Attendant. Listed below are descriptions of Integrated Voice Mail features.

Integration

Integrated Voice Mail resides on the optional Voicemail Card circuit card installed inside the X-EO cabinet. Digital integration provides direct connection to the system CPU for faster call processing and voice mail retrieval. Integrated Voice Mail is programmed using the Integrated Voice Mail System Editor. Programming mode is accessible via either direct or dial-up connection.

Capacity

- 8 Hours of Message Storage
- 50 Mailboxes
- Four Voice Mail, Automated Attendant Ports
- 4 System/Attendant Menus

Integrated VOICE MAIL Features

Two User Levels

Mailbox users may be configured as Standard or Advanced. Advanced users may create a unique options menu to present callers with additional choices. These options can include leaving a message, transferring to another station or menu, or listening to the company directory. Advanced Mailboxes may also be used to record specific greetings with menu options for departments within a company.

Multiple Message Folders

Each Integrated Voice Mail mailbox has 4 message folders:

- New Messages
- Saved Messages
- Archived Messages
- Deleted Messages

Automated Attendant

Integrated Voice Mail provides four automated attendant menus. Calls may be routed to the Integrated Voice Mail Automated Attendant based on incoming line, Caller ID or ANI digits received, or by the number dialed. When the Integrated Voice Mail Automated Attendant answers, callers hear a customized greeting that presents them with menu options. These options can include leaving a message, transferring to another station, department, or menu, or listening to the company directory. Calls may be directed to a specific attendant menu based on time of day, attendant station status, or type of call.

Broadcast Messages

Users may create messages and distribute them to extensions in predefined distribution lists. Each mailbox may create up to nine distribution lists.

Notification Call Out

Each mailbox has four Notification Callout Schedules. These schedules are used to program Integrated Voice Mail to call a system extension, outside telephone number, or numeric pager to notify you of a new voice mail message. Notification Call Out may be programmed to occur for each new message or only at a specific time of day. Other programmable options for this feature include type of message (all, urgent only, non-urgent only) and message source (all messages, outside callers only, or system extensions only).

Voice Mail Message Recording Monitor

The X-EO Answering Machine Emulation feature allows a system extension to monitor a voice mail message as it is being recorded. The station user may choose to initiate a conversation by pressing a key on their digital telephone.

Company Directory

Integrated Voice Mail includes a Company Directory that allows callers to search for a person's voice mailbox by first name or last name.

Mailbox Setup Tutorial

Integrated Voice Mail includes a tutorial that walks users through the process of setting up and changing their voice mailbox.